AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 94. (Cancelled).

95. (Currently amended) A method for controlling microbial or biofilm growth in a medium, the method comprising:

mixing a nitrogen-containing compound ~~selected from ammonium carbamate and ammonium sulfamate~~ comprising a salt of the formula $Y^{x-}[NH_2R^3R^4]^+_x$, wherein

Y^{x-} is a basic form of an acid Y that contains at least one moiety selected from the group consisting of a primary amine moiety, a secondary amine moiety, a tertiary amine moiety, an amide moiety, an imide moiety, a sulfamide moiety, a sulfimide moiety, and an amineimine moiety; and

$[NH_2R^3R^4]^+$ is an acidic form of a base NHR^3R^4 wherein:

R^3 and R^4 are each independently selected from the group consisting of H and C_{1-8} alkyl,

or R^3 and R^4, together with the nitrogen atom to which they are attached, form a 5- to 10-member heterocyclic ring optionally substituted by one or more groups selected from C_{1-6} alkyl, C_{3-8} cycloalkyl, halogen, hydroxy, $-OC_{1-6}$ alkyl or
$-OC_{3-8}$ cycloalkyl; and

x is 1 to 3,

and an aqueous solution of a hypochlorite oxidant to form a biocide comprising a salt of the formula $Y^{x-}[NHR^3R^4Cl]^+_x$,

wherein the molar ratio of said nitrogen-containing compound to said hypochlorite is at least 1:1, and

after said mixing, applying said biocide to said medium,

wherein said biocide has a pH of between 9.0 and 11.5 immediately prior to being applied to said medium~~, and~~

~~wherein said biocide is substantially free of any other essential compound~~.

Claims 96 - 98. (Cancelled)

99. (Previously Presented) A method according to claim 95, wherein the concentration of said hypochlorite oxidant in said aqueous hypochlorite oxidant solution immediately prior to mixing with said nitrogen-containing compound is not more than 24,000 ppm as total chlorine.

100. (Previously Presented) A method according to claim 95, wherein said nitrogen-containing compound or mixture thereof is in an aqueous solution at a concentration of 0.5-60% w/v prior to mixing with the hypochlorite oxidant solution.

101. (Previously Presented) A method according to claim 95, wherein said mixing takes place in a mixing chamber into and out of which there is a continuous flow of water during said mixing.

102. (Previously Presented) A method according to claim 95, wherein said hypochlorite oxidant is selected from the group consisting of alkaline and alkali earth metal hypochlorites, hypochlorite released to water from a stable chlorine carrier and hypochlorite formed *in situ* from chlorine gas, and mixtures thereof.

103. (Previously Presented) A method according to claim 95, wherein said hypochlorite oxidant is selected from the group consisting of lithium hypochlorite, sodium hypochlorite, calcium hypochlorite, magnesium hypochlorite and potassium hypochlorite.

Claims 104 - 105. (Cancelled)

106. (Previously Presented) A method according to claim 101, wherein the concentration of said hypochlorite oxidant in said aqueous hypochlorite oxidant solution prior to mixing with said nitrogen-containing compound is not more than 24,000 ppm as total chlorine, and said mixing chamber comprises a conduit through which water flows as said hypochlorite oxidant solution and the nitrogen-containing compound are mixed.

107. (Previously Presented) A method according to claim 106, wherein said solution of hypochlorite oxidant is prepared *in situ* in said conduit prior to addition of said solution of said nitrogen-containing compound to said conduit.

108. (Previously Presented) A method according to claim 95, wherein said nitrogen-containing compound is diluted prior to mixing with the hypochlorite oxidant.

109. (Withdrawn) A method according to claim 95, wherein said medium is pulp and paper factory process water.

110. (Withdrawn) A method according to claim 95, wherein said medium is cooling tower water.

111. (Previously Presented) A method according to claim 95, wherein said medium is waste water or reclaimed waste water.

112. (Withdrawn) A method according to claim 95, wherein said medium is a clay slurry.

113. (Withdrawn) A method according to claim 95, wherein said medium is a starch slurry.

114. (Withdrawn) A method according to claim 95, wherein said medium is a sludge.

115. (Withdrawn) A method according to claim 95, wherein said medium is soil.

116. (Withdrawn) A method according to claim 95, wherein said medium is a colloidal suspension.

117. (Withdrawn) A method according to claim 95, wherein said medium is irrigation water.

118. (Withdrawn) A method according to claim 95, wherein said medium is a medium containing strong reducing agents.

119. (Withdrawn) A method according to claim 95, wherein said medium is a medium having a high reducing capacity.

Claims 120 - 121. (Cancelled)

122. (Previously Presented) A method according to claim 95, wherein the concentration of said biocide immediately prior to being applied to said medium is from 1000 to 12,000 ppm expressed as total chlorine.

123. (Previously Presented) A method according to claim 95, wherein the concentration of said biocide in said medium, upon application of the biocide to said medium, is 0.5-300 ppm expressed as chlorine.

124. (Previously Presented) A method according to claim 95, wherein said biocide is effective within 1 hour of application to said medium.

125. (Withdrawn-currently amended) Apparatus for applying a biocide to a medium, comprising: a nitrogen-containing compound reservoir containing a nitrogen-containing compound ~~selected from ammonium carbamate and ammonium sulfamate,~~ comprising a salt of the formula Y^{x-} $[NH_2R^3R^4]^+_x$, wherein

Y^{x-} is a basic form of an acid Y that contains at least one moiety selected from the group consisting of a primary amine moiety, a secondary amine moiety, a tertiary amine moiety, an amide moiety, an imide moiety, a sulfamide moiety, a sulfimide moiety, and an amineimine moiety; and

$[NH_2R^3R^4]^+$ is an acidic form of a base NHR^3R^4 wherein:

R^3 and R^4 are each independently selected from the group consisting of H and C_{1-8} alkyl, or R^3 and R^4, together with the nitrogen atom to which they are attached, form a 5- to 10-member heterocyclic ring optionally substituted by one or more groups selected from C_{1-6} alkyl,

C_{3-8} cycloalkyl, halogen, hydroxy, $-OC_{1-6}$ alkyl or
$-OC_{3-8}$ cycloalkyl; and

x is 1 to 3,

a source of hypochlorite oxidant dilution having a concentration of between not more than 24,000 ppm as total chlorine,

and a mixing chamber operable to mix the dilution and the nitrogen-containing compound or mixture thereof in a molar ratio of nitrogen atoms in the nitrogen-containing compound to the hypochlorite of at least 1:1, to produce the biocide in the mixing chamber, wherein said biocide comprises a salt of the formula $Y^{x-}[NHR^3R^4Cl]^+_x$, and wherein said biocide has a pH of between 9.0 and 11.5 immediately prior to being applied to said medium~~, and~~

~~wherein said biocide is substantially free of any other essential compound~~.

Claim 126. (Cancelled).

127. (Withdrawn) Apparatus according to claim 125, wherein said source of hypochlorite oxidant dilution comprises a hypochlorite-containing reservoir containing a hypochlorite oxidant solution, and a diluter operable to dilute the hypochlorite oxidant solution to produce said hypochlorite oxidant dilution having a concentration of not more than 24,000 ppm expressed as total chlorine.

128. (Withdrawn) Apparatus according to claim 127, wherein said diluter and said mixing chamber are a single conduit which is adapted to dilute said hypochlorite oxidant prior to mixing with said nitrogen-containing compound or mixture thereof.

129. (Currently amended) A method for controlling microbial or biofilm growth in a medium, the method comprising mixing a nitrogen-containing compound ~~selected from ammonium carbamate and ammonium sulfamate~~ comprising a salt of the formula $Y^{x-}[NH_2R^3R^4]^+_x$, wherein

Y^{x-} is a basic form of an acid Y that contains at least one moiety selected from the group consisting of a primary amine moiety, a secondary amine moiety, a tertiary amine moiety, an amide moiety, an imide moiety, a sulfamide moiety, a sulfimide moiety, and an amineimine moiety; and

$[NH_2R^3R^4]^+$ is an acidic form of a base NHR^3R^4 wherein:

R^3 and R^4 are each independently selected from the group consisting of H and C_{1-8} alkyl,

or R^3 and R^4, together with the nitrogen atom to which they are attached, form a 5- to 10-member heterocyclic ring optionally substituted by one or more groups selected from C_{1-6} alkyl, C_{3-8} cycloalkyl, halogen, hydroxy, $-OC_{1-6}$ alkyl or $-OC_{3-8}$ cycloalkyl; and

x is 1 to 3,

a bromide and an aqueous solution of a hypochlorite oxidant to form a biocide comprising a salt of the formula $Y^{x-}[NHR^3R^4Cl]^+_x$,

~~and~~wherein the molar ratio of said nitrogen-containing compound to hypochlorite is at least 1:1,

and after said mixing, applying said biocide to said medium, wherein said biocide has a pH of between 9.0 and 11.5 immediately prior to being applied to said medium~~, and wherein said biocide is substantially free of any other essential compound~~.

130. (Previously presented) A method according to claim 95, wherein said nitrogen-containing compound is ammonium sulfamate.

131. (Previously presented) A method according to claim 95, wherein said nitrogen-containing compound is ammonium carbamate.

132. (Previously presented) A method according to claim 95, wherein said hypochlorite oxidant is sodium hypochlorite.

133. (Previously presented) A method according to claim 95, wherein said hypochlorite oxidant is sodium hypochlorite, said nitrogen-containing compound is ammonium carbamate and said medium is waste water or reclaimed waste water.

134. (Previously presented) A method according to claim 95, wherein said biocide has a pH of at least 9.5 immediately prior to being applied to said medium.

135. (Previously presented) A method according to claim 95, wherein said biocide has a pH of at least 10.0 immediately prior to being applied to said medium.

136. (Previously presented) A method according to claim 95, wherein said biocide has a pH of at least 10.5 immediately prior to being applied to said medium.

137. (Previously presented) A method according to claim 95, wherein said biocide has a pH of at least 11.0 immediately prior to being applied to said medium.

138. (New) The method according to claim 95, wherein Y^{x-} is selected from carbamate and sulfamate.

139. (New) The method according to claim 95, wherein R^3 and R^4 are both H.

140. (New) The method according to claim 138, wherein R^3 and R^4 are both H.